In the claims

Please amend the claims as follows:

Claims 1 to 10 (cancelled)

11. (previously presented) A method of assembling traffic from a plurality of users for transmission over an ATM connection, said method comprising:

assembling the plurality of users' traffic into respective mini-cells;

for each of said plurality of users' traffic, storing information pertaining to a mini-cell length associated with that user's mini-cells; and

multiplexing the mini-cells into ATM cells.

12. (previously presented) A method as claimed in claim 11, wherein the information pertaining to a mini-cell length associated with a user's mini-cells is derived as an explicit mini-cell length indicator from a connection identifier for that user's mini-cells.

13. (previously presented) A method as claimed in claim 11, wherein the information pertaining to a mini-cell length associated with a user's mini-cells is derived as an implicit mini-cell length indicator by interpreting information contained in a service specific control (SCF) field for that user's mini-cells.

14. (previously presented) A method as claimed in claim 11, wherein the information pertaining to the mini-cell lengths for the plurality of users' traffic is stored at an interface of an ATM network hosting the ATM connection.

15. (previously presented) A method as claimed in claim 14, wherein the interface comprises a look-up table.

16. (previously presented) A method as claimed in claim 15, wherein the step of storing the information pertaining to the mini-cell length associated with a user's mini-

cells comprises storing said mini-cell length indicator at an entry associated with that user in the look-up table.

17. (previously presented) A method as claimed in claim 16, wherein the step of storing the information pertaining to the mini-cell length associated with a user's mini-cells comprises storing a connection identifier for that user's mini-cells at the entry associated with that user in the look-up table.

18. (previously presented) A method as claimed in claim 16, wherein the step of storing the information pertaining to the mini-cell length associated with a user's mini-cells comprises storing information contained in a service specific control (SCF) field for that user's mini-cells at the entry associated with that user in the look-up table.

19. (previously presented) A method as claimed in claim 11, wherein the ATM connection comprises a virtual connection (VC).

20. (previously presented) A method as claimed in claim 19, wherein a plurality of VCs are configured on the ATM connection.

21. (previously presented) A method as claimed in claim 11, wherein the information pertaining to a mini-cell length associated with a user's mini-cells comprises a correspondence between a connection identifier and a mini-cell length indicator for that user.

22. (previously presented) A method as claimed in claim 21, wherein said correspondence is derived from information to be transmitted in a service specific control (SCF) field of that user's mini-cells.

23. (previously presented) A method as claimed in claim 11, wherein a sequence number is provided for a mini-cell.

24. (previously presented) A method as claimed in claim 23, wherein said mini-cell sequence number is contained in a mini-cell start pointer.

25. (previously presented) A method as claimed in claim 24, wherein a mini-cell start pointer is provided in every ATM cell containing mini-cells.

26. (previously presented) A method as claimed in claim 11, wherein a sequence number is provided for each ATM cell containing mini-cells.

27. (previously presented) A method as claimed in claim 26, wherein a mini-cell start pointer is provided in every ATM cell containing mini-cells and the ATM cell sequence number is included in the mini-cell start pointer.

28. (previously presented) A method as claimed in claim 26, wherein the ATM cell sequence number is included in an AUU bit of a header of an ATM cell.

29. (previously presented) A method as claimed in claim 26, wherein the ATM cell sequence number is defined by a single bit.

30. (previously presented) A method as claimed in claim 11, wherein at least one of said users is allocated variable length mini-cells and wherein the stored information pertaining to a mini-cell length associated with that user's mini-cells is updated.

31. (previously presented) A method of transmitting traffic from a plurality of users over an ATM connection, said method comprising:

assembling the plurality of users' traffic into respective mini-cells;

for each of said plurality of traffic users, storing information pertaining to a mini-cell length associated with that user's mini-cells;

multiplexing the mini-cells into ATM cells;

transmitting the ATM cells over the ATM connection; and,

at an egress of the ATM connection, determining from the stored information the respective mini-cells lengths of said users' mini-cells in order to delineate said mini-cells in each ATM cell received at said egress.

32. (previously presented) A method as claimed in claim 31, wherein the information pertaining to a mini-cell length associated with a user's mini-cells is derived as an explicit mini-cell length indicator from a connection identifier for that user's mini-cells.

33. (previously presented) A method as claimed in claim 31, wherein the information pertaining to a mini-cell length associated with a user's mini-cells is derived as an implicit mini-cell length indicator by interpreting information contained in a service specific control (SCF) field for that user's mini-cells.

34. (previously presented) A method as claimed in claim 31, wherein the information pertaining to the mini-cell lengths for the plurality of users' traffic is stored at an interface of an ATM network hosting the ATM connection.

35. (previously presented) A method as claimed in claim 34, wherein the interface comprises a look-up table.

36. (previously presented) A method as claimed in claim 35, wherein the step of storing the information pertaining to the mini-cell length associated with a user's mini-cells comprises storing said mini-cell length indicator at an entry associated with that user in the look-up table.

37. (previously presented) A method as claimed in claim 36, wherein the step of storing the information pertaining to the mini-cell length associated with a user's mini-cells comprises storing a connection identifier for that user's mini-cells at the entry associated with that user in the look-up table.

38. (previously presented) A method as claimed in claim 36, wherein the step of storing the information pertaining to the mini-cell length associated with a user's mini-cells comprises storing information contained in a service specific control (SCF) field for that user's mini-cells at the entry associated with that user in the look-up table.

39. (previously presented) A method as claimed in claim 34, wherein the stored information pertaining to the mini-cell lengths for the plurality of users' traffic is stored at the interface is updated to accommodate users requiring variable length mini-cells.

40. (previously presented) A method as claimed in claim 39, wherein the stored information at the interface is updated when establishing mini-cell connection set-up.

41. (previously presented) A method as claimed in claim 31, wherein the ATM connection comprises a virtual connection (VC).

42. (previously presented) A method as claimed in claim 41, wherein a plurality of VCs are configured on the ATM connection.

43. (previously presented) A method as claimed in claim 31, wherein the information pertaining to a mini-cell length associated with a user's mini-cells comprises a correspondence between a connection identifier and a mini-cell length indicator for that user.

44. (previously presented) A method as claimed in claim 43, wherein said correspondence is derived from information transmitted in a service specific control (SCF) field of that user's mini-cells.

45. (previously presented) A method as claimed in claim 31, wherein a sequence number is provided for in a mini-cell.

46. (previously presented) A method as claimed in claim 45, wherein said mini-cell sequence number is contained in a mini-cell start pointer.

47. (previously presented) A method as claimed in claim 46, wherein omission or corruption of mini-cells in a sequence is detected from said mini-cell sequence number and said omitted or corrupted mini-cells are selectively retransmitted.

48. (previously presented) A method as claimed in claim 47, wherein the mini-cell sequence number is defined by a single bit.

49. (previously presented) A method as claimed in claim 46, wherein a mini-cell start pointer is provided in every ATM cell containing mini-cells.

50. (previously presented) A method as claimed in claim 31, wherein a sequence number is provided for each ATM cell containing mini-cells.

51. (previously presented) A method as claimed in claim 50, wherein a mini-cell start pointer is provided in every ATM cell containing mini-cells and the ATM cell sequence number is included in the mini-cell start pointer.

52. (previously presented) A method as claimed in claim 50, wherein the ATM cell sequence number is included in an AUU bit of a header of an ATM cell.

53. (previously presented) A method as claimed in claim 50, wherein the ATM cell sequence number is defined by a single bit.

54. (previously presented) A method as claimed in claim 31, wherein at least one of said users is allocated variable length mini-cells and wherein the stored information pertaining to a mini-cell length associated with that user's mini-cells is updated.

55. (previously presented) A method as claimed in claim 31, wherein the stored information pertaining to a mini-cell length associated with a user's mini-cells includes information pertaining to a state of that user's mini-cell connection.

56. (previously presented) A method as claimed in claim 55, wherein said stored information includes information pertaining to any dynamically varying parameters for the user's mini-cell connection.

57. (previously presented) A method as claimed in claim 55, wherein it includes comparing the stored information with information received at the ATM connection egress as a mechanism for detecting errors in a mini-cell connection.

58 to 77. (cancelled)

78. (previously presented) A system for transmitting traffic from a plurality of users over an ATM connection, said system comprising:

an ATM traffic assembly apparatus for assembling the plurality of users' traffic into respective mini-cells and, for each of said plurality of traffic users, storing information pertaining to a mini-cell length associated with that user's mini-cells;

a multiplexer for multiplexing the mini-cells into ATM cells and dispatching the ATM cells onto the ATM connection; and,

means at an egress of the ATM connection for determining from the stored information the respective mini-cells lengths of said users' mini-cells in order to control a means for delineating said mini-cells in each ATM cell received at said egress.

79. (previously presented) A system as claimed in claim 78, wherein the assembly apparatus derives information pertaining to a mini-cell length associated with a user's mini-cells as an explicit mini-cell length indicator from a connection identifier for that user's mini-cells.

80. (previously presented) A system as claimed in claim 78, wherein the assembly apparatus derives information pertaining to a mini-cell length associated with a user's mini-cells as an implicit mini-cell length indicator by interpreting information contained in a service specific control (SCF) field for that user's mini-cells.

81. (previously amended) A system as claimed in claim 78, wherein the assembly apparatus stores the information pertaining to the mini-cell lengths for the plurality of users' traffic at an interface of an ATM network hosting the ATM connection.

82. (previously presented) A system as claimed in claim 81, wherein the interface comprises a look-up table.

83. (previously presented) A system as claimed in claim 82, wherein the assembly apparatus stores the information pertaining to the mini-cell length associated with a user's mini-cells at an entry associated with that user in the look-up table.

84. (previously presented) A system as claimed in claim 83, wherein the assembly apparatus stores a connection identifier for that user's mini-cells at the entry associated with that user in the look-up table.

85. (previously presented) A system as claimed in claim 83, wherein the assembly apparatus stores information contained in a service specific control (SCF) field for that user's mini-cells at the entry associated with that user in the look-up table.

86. (previously presented) A system as claimed in claim 81, wherein the assembly apparatus updates the information pertaining to the mini-cell lengths for the plurality of users' traffic stored at the interface to accommodate users requiring variable length mini-cells.

87. (previously presented) A system as claimed in claim 86, wherein assembly apparatus updates the stored information at the interface when establishing mini-cell connection set-up.

88. (previously presented) A system as claimed in claim 78, wherein the ATM connection comprises a virtual connection (VC).

89. (previously presented) A system as claimed in claim 88, wherein a plurality of VCs are configured on the ATM connection.

90. (previously presented) A system as claimed in claim 78, wherein the assembly apparatus stores information pertaining to a mini-cell length associated with a user's mini-cells comprising a correspondence between a connection identifier and a mini-cell length indicator for that user.

91. (previously presented) A system as claimed in claim 90, wherein said correspondence is derived from information transmitted in a service specific control (SCF) field of that user's mini-cells.

92. (previously presented) A system as claimed in claim 78, wherein the assembly apparatus provides a sequence number in a mini-cell.

93. (previously presented) A system as claimed in claim 92, wherein said assembly apparatus encapsulates the mini-cell sequence number in a mini-cell start pointer.

94. (previously presented) A system as claimed in claim 93, wherein the means at the ATM connection egress detects omission or corruption of mini-cells in a sequence said mini-cell sequence number and controls said assembly apparatus to selectively retransmit said omitted or corrupted mini-cells.

95. (previously presented) A system as claimed in claim 94, wherein the mini-cell sequence number is defined by a single bit.

96. (previously presented) A system as claimed in claim 93, wherein the assembly apparatus provides a mini-cell start pointer in every ATM cell containing mini-cells.

97. (previously presented) A system as claimed in claim 78, wherein the assembly apparatus provides a sequence number for each ATM cell containing mini-cells.

98. (previously presented) A system as claimed in claim 97, wherein the assembly apparatus provides a mini-cell start pointer in every ATM cell containing mini-cells and includes the ATM cell sequence number in the mini-cell start pointer.

99. (previously presented) A system as claimed in claim 97, wherein the assembly apparatus includes the ATM cell sequence number in an AUU bit of a header of an ATM cell.

100. (previously presented) A system as claimed in claim 97, wherein the ATM cell sequence number is defined by a single bit.

101. (previously presented) A system as claimed in claim 78, wherein the assembly apparatus allocates at least one of said users with variable length mini-cells and wherein the stored information pertaining to a mini-cell length associated with that user's mini-cells is updated.

102. (previously presented) A system as claimed in claim 78, wherein the assembly apparatus includes information pertaining to a state of a user's mini-cell connection in the stored information pertaining to a mini-cell length associated with that user's mini-cells includes.

103. (previously presented) A system as claimed in claim 102, wherein said stored information includes information pertaining to any dynamically varying parameters for the user's mini-cell connection.

104. (previously presented) A system as claimed in claim 102, wherein the means at the ATM connection egress is arranged to compare the stored information with information received at said ATM connection egress as a mechanism for detecting errors in a mini-cell connection.